

**CURATION OF FEDERALLY OWNED  
ARCHEOLOGICAL COLLECTIONS  
AT NASA LANGLEY RESEARCH CENTER**

**John Arnold Eastman**

**John Mouring, mentor  
Master Planner  
Facilities Program Development Office  
Internal Operations Group**

## ABSTRACT

As a federal agency, NASA has a moral and legal obligation to the public to manage the archeological heritage resources under its control. Archeological sites are unique, nonrenewable resources that must be preserved so that future generations may experience and interpret the material remains of the past. These sites are protected by a wide array of federal regulations including the Antiquities Act of 1906 (P.L. 59-209, 16 U.S.C. 431-433), the Historic Sites Act of 1935 (P.L. 74-292, 16 U.S.C. 461-467), the National Historic Preservation Act of 1966 (P.L. 95-515)(P.L. 102-575, 16 U.S.C. 470-470t), and the Archeological Resources Protection Act of 1979 (P.L. 86-95, 16 U.S.C. 470aa-470ll). These regulations are intended to ensure that our nation's cultural heritage is preserved for the study and enjoyment of future generations.

Once a site has been excavated, all that remains of it are the artifacts and associated records which, taken together, allow researchers to reconstruct the past. With the contextual information provided by associated records such as field notes, maps and photographs, archeological collections can provide important information about life in the past. An integral component of the federal archeology program is the curation of these databases so that qualified scholars will have access to them in years to come. Standards for the maintenance of archeological collections have been codified by various professional organizations and by the federal government. These guidelines focus on providing secure, climate-controlled archival storage conditions for the collections and an adequate study area in which researchers can examine the artifacts and documents.

In the 1970's and early 1980's, a group of NASA employees formed the LRC Historical and Archeological Society (LRCHAS) in order to pursue studies of the colonial plantations that had been displaced by Langley Research Center (LaRC). They collected data on family histories and land ownership as well as conducting archeological surveys and excavations at two important 17th-20th century plantation sites in LaRC, Cloverdale and Chesterville. The excavations produced a wealth of information in the form of artifacts, photographs, maps and other documents. Unfortunately, interest on the part of the LRCHAS membership waned before a report was written, and since 1982 the artifacts have moldered in a flimsy trailer with no climate controls, which had once served as a field laboratory but which threatened to become a tomb for the collection. A recent analysis of Langley's cultural resources by Gray & Pape, Inc. recommended that the collection be organized, cataloged, and placed in a proper curation facility in accordance with federal regulations.

My project for the LARSS program was to research curation standards, organize the collection, catalog it, and prepare it for transfer to a facility which could provide adequate long-term curation conditions for the artifacts and documents. The first phase was to organize the artifacts, which were lying about the lab in various stages of cleaning, analysis, and conservation. Once all of the artifacts from the various excavation units and levels had been regrouped, they were cleaned and/or repackaged in archivally-stable materials. A basic catalog was prepared which will provide interested parties with a rough idea of what we have and where it can be found. Another aspect of my project was to organize the records left by the LRCHAS. Bundles of papers, photographs, and field data found in every corner and drawer of the laboratory trailer were put into order and, where appropriate, copies were made on acid-free Permabond paper for longterm storage. Finally, the entire collection and most of the lab equipment was transferred into a secure, climate controlled room which will serve as an archive and study space for qualified scholars interested in exploring LaRC's rich historical heritage.

## **INTRODUCTION**

Archeology provides us with a unique opportunity to study the past through the examination of actual objects used by people in the past. Archeological sites constitute a finite, nonrenewable resource of important information which cannot be duplicated or supplanted by standard historical sources. The act of excavation effectively destroys a site, leaving only the artifacts and associated records to tell its story. An important component of the federal archeology program is the curation of archeological collections for the benefit of future scholars. Curation is often given low priority in archeological circles, being considered less glamorous than field excavation, but any archeologist who has had to work with previously excavated materials can attest to the importance of proper storage and maintenance of artifacts and especially the related records. These records can include field notes, maps, photographs, historical records, and any other materials which provide information on the people whose remains are being excavated or on the excavation process itself. Artifacts without records are like paragraphs cut randomly from the pages of a book: interesting bits of information with no relation to any unifying whole.

Recognizing its role as steward for the shared cultural heritage embodied in archeological resources, the federal government has established guidelines for the curation of federally-owned archeological collections to ensure their preservation for future generations. These regulations are spelled out in 36 C.F.R. Part 79 "Curation of Federally Owned and Administered Archeological Collections" (see Appendix B). In a nutshell, these guidelines require that artifacts and records be stored together in a secure, fireproof facility with stable climatic controls providing optimal archival storage conditions for their long-term preservation. The Society for Historical Archeology's "Standards and Guidelines for the Curation of Archaeological Collections" (see Appendix A) expands on the federal guidelines, specifying optimal methods and materials for labelling, packaging, and storing these materials.

Ideally, an archeologist in the year 2095 should be able to come to Langley, sit down with our collection, and find everything necessary to be able to make sense of it. As more and more sites are destroyed by development or excavation, archeologists will increasingly come to rely on previously excavated collections to conduct their research.

## **ARCHEOLOGY AT LANGLEY RESEARCH CENTER**

The study of the history and archeological resources at Langley Research Center can be traced to the mid-1950's, when two events occurred in the West Area that sparked the interest of NASA employees. One was the 1955 demolition of Cloverdale, the last surviving colonial house in this part of Hampton, which had stood where the bandstand is now located next to Reid Conference Center for almost 300 years. The other was the construction in 1956 of the hydraulic test track near Brick Kiln Creek, when a 17th century stone house foundation and colonial artifacts were exposed by grading equipment. It had long been known that this area and the nearby brick house ruin had once been the property of George Wythe, the famous colonial legislator, law professor, and signer of the Declaration of Independence. A NASA employee, Lyman Stilley, saved some artifacts which had been exposed in the track bed between the remains of the two houses, thus forming the nucleus of NASA-Langley's present archeological collection.

In 1970, a group of NASA employees organized and formed the LRC Historical and Archeological Society (LRCHAS) as an avocational pastime, with the goal of studying the people and properties that had preceded NASA in occupying this section of Hampton. Some members focused on historical issues, researching state and county records offices for family histories, wills, land patents, and deeds in order to document the human history and changing patterns of land ownership in the region. Other members opted to study the material remains of the past, and after consultation with the state archeologist and NASA officials, commenced the

first instructional archeological excavation in Fall 1973 at the site of Cloverdale plantation. They soon encountered a large trash pit which eventually yielded hundreds of artifacts dating from the mid-17th through the early 20th century.

In 1971, the LRCHAS prepared the documentation necessary to have Chesterville plantation, the birthplace and home of George Wythe, declared a National Historic Landmark. The site included the 17th century stone house foundation and the remains of a brick house which was built c. 1772 and burned in 1911. In the fall of 1974, they initiated a systematic shovel test survey of the main area around the two house ruins in order to establish the site boundaries, discovering an 18th century brick kiln and several possible outbuildings in the process. The site was duly accorded NHL status, and the 13-acre site is protected as such to this day.

In 1975, the LRCHAS initiated extensive excavation of the older stone house foundation in order to further assess its archeological deposits and to prepare an exhibit for the upcoming bicentennial celebration. The entire foundation was exposed through the excavation of thirteen 10-foot squares, of which two were selected for deeper excavation. Tens of thousands of artifacts were recovered in the course of this project. In addition, the group constructed the historical site markers which still dot Langley's landscape and prepared a drive-through historical tour which became one of the Visitor's Center's most popular attractions. Excavations continued on and off through 1981, by which time the bicentennial spirit had waned and with it the enthusiasm of society members. Laboratory curation and analysis had been neglected for some time, and by the mid 1980's the entire project had been essentially abandoned.

## **THE PRESENT PROJECT**

When examined in early June 1995, the situation appeared hopeless. The last excavation unit had never been backfilled, and a small tree had sprouted from the exposed site floor. In the lab, artifacts were piled on every flat surface in sight: shelves, desks, worktables, the draining board of the sink, and the floor. They were stored in every conceivable kind of container: cigar boxes, Dixie cups, paper bags, cardboard boxes, plastic boxes, and sometimes just in open piles on a desk. Artifacts from the two different sites were often found on the same shelf together, and most had never been cleaned after excavation. Paper bags had sat in the non-climate controlled environment of the trailer for so long that in some cases the provenience information on the bag had faded beyond the point of legibility, and in many cases the bags were so dried out that they crumbled when touched. Field records, drawings, maps, photographs, and artifact inventory sheets were found to be in a similar state of disorganization, lying in drawers, on shelves, and in piles on the floor. Photographs were faded and crumbling, written records that had lain exposed to sunlight had faded, and evidence of rodent activity was everywhere. The laboratory building itself was a flimsy three-room trailer with a door that could be opened with a screwdriver in less than ten seconds. The structure was deteriorating, and stood a very real chance of being destroyed by a strong windstorm.

Before dealing with the artifacts themselves, the files of the LRCHAS were organized in order to get a feel for the operation of the society and to gain some idea of what could be expected to exist in the collection. Minutes of meetings, memos, correspondence, field notes, photographs, and other research materials were organized as best as possible. As the project progressed it was often possible to label uncaptioned photographs or to determine the provenience of unlabelled artifacts based on information gleaned from drawings and field notes. Wherever possible, information from several sources was cross-referenced. For example, an artifact found in the lab which had lost its identification tag was later identified, using a labelled photograph and an entry on an artifact inventory sheet. In another case, a labelled stratigraphic profile drawing of the site's basement wall provided the key to understanding a series of dozens of photographs, an interpretation which was later borne out by a careful rereading of the field

notes . Often, an obscure reference noted in this initial stage of the project would suddenly make sense weeks later when a corresponding piece of data was uncovered. It was quite a detective story at times, and in the end it was possible to learn a great deal about George Wythe, his family and property from what had seemed like a hopeless mess eight weeks before.

The artifact collection itself is especially rich, and together with the associated records, forms a valuable resource for a variety of inquiries into this period of the past. Major functional artifact classes represented in Langley's collection include the following:

<u>Functional category</u>	<u>Related artifact types</u>
Food storage / preparation / consumption	ceramics, glassware, iron kettles and stove parts, utensils of pewter, iron & bone
Architectural materials	brick, nails, mortar, stone, shell, plaster, window glass, lead window comes, iron hinges
Clothing and furniture	Buttons, upholstery tacks, brass pins, thimbles, buckles
Dietary remains	bone and shell
Hunting /defense	gunflint, bullets, gun parts, sword parts
Leisure activities	pipes, marbles, porcelain dolls, bone dominoes.

These items of material culture, along with the contextual information gleaned from geneology and documentary research, provide us with a window into the life of one of our founding fathers, as well as his neighbors and successors in the region. Archeologists have developed a wide array of analytical and interpretive approaches to material culture in recent years, enabling deeper and more humanistically satisfying recovery of meaning from archeological remains. Significant advances in archeological method and theory have occurred even since the Chesterville excavations were abandoned in 1981, and these interpretive capabilities can only be expected to increase in years to come.

The most basic step in archeological curation is to wash the soil from all artifacts, except in rare cases where such action may damage residues of food or blood that could prove useful for future analysis. After drying, the artifacts were placed in plastic ziploc-type bags, grouped by provenience. Where practical, the artifacts from a particular provenience were separated into artifact classes such as ceramics, glass, bone, etc., then all of those bags were placed in one large bag and assigned a lot number for the entire provenience.

For the benefit of the uninitiated, provenience refers to the location in which an artifact was found. This context is crucial in understanding the relationships between all the artifacts from a site. The provenience, then, is the artifact's position in three-dimensional space. The excavation unit, usually identified with an Excavation Record number (E.R. #), marks the horizontal location, while the level, usually identified with an upper case letter, marks the vertical position within the unit. The LRCHAS excavators worked in ten-foot squares based on U.T.M. coordinates found on the NASA-LaRC grid map, so the horizontal position of the excavation units can be precisely established. Following a practice common at the time, they left narrow walls known as bulks to separate the squares; these bulks were later excavated in some cases, and the artifact bags marked accordingly. The units were excavated in natural levels following visible changes in soil color and composition, occasionally denoting sublevels if only a minor change was noted. Thus, provenience 6AAA would have been above 6B, which was above 6BB, 6C, and so on. The only problem with using natural levels is that accurate detailed records must be kept which describe the differentiating characteristics of each level (soil color, composition, and artifact content) as well as its depth and thickness. Without these descriptions, there is no way of knowing exactly where in vertical space an artifact was found, only its position relative to the other levels within that unit. Unfortunately, this information does not appear to have been recorded by the LRCHAS excavators. A few stratigraphic profile drawings have been found

which might provide this information, but time constraints in the current project precluded this level of analysis.

Once all of the artifacts had been grouped with others from the same provenience, the cataloging process commenced. Every provenience was assigned a lot number, and if a bulk wall or feature within a level was excavated separately from the other artifacts in that level, it was assigned a separate lot number (examples: 4B, 4B-West Bulk, 4B-South Bulk, 6C, 6C-SE pit, 6C-NW pit, etc.). All artifacts from the same provenience should be cataloged under the same lot number, and any deviations from this standard should be noted in the artifact catalog. In the present case, rubble (consisting of brick, mortar, plaster, shell and stone) was cataloged separately from artifacts (such as ceramics, glass, etc. ) for packaging purposes, so as to prevent fragile artifacts from being crushed by the bulkier rubble. The rubble was cataloged in numerical order from E.R. # 1 through E.R. # 13, followed by E.R. # 101, followed by the artifacts from E.R. #1 through E.R. #13. Occasional deviations from this system occurred if, for instance, a stray bag of artifacts was discovered after the rest of that provenience had already been cataloged and packaged.

Artifacts were occasionally found with no provenience information, whether the container had never been labelled in the first place or the label had simply faded over the years. These artifacts were labelled "No Provenience" and each such group was assigned its own lot number. Artifacts with no provenience have no analytical value, but are useful for a study collection or for display purposes.

Ideally, every artifact should be permanently labelled with the site number and provenience, so that if any become separated from the rest of the lot, they can later be returned to their proper place. Many of the unique or most interesting artifacts from the Chesterville site were pulled from the collection for displays and lectures, and the list of their proveniences has been lost, so they are stuck in a display collection limbo. Anytime an artifact is pulled from its lot, a note to that effect should be placed with the remaining artifacts and a separate list of "pulled artifacts" should be maintained to provide double indemnity against information loss. When the pulled artifact is returned to its proper place, the note can be removed from the lot bag and the entry checked off from the list.

Once all artifacts had been organized, bagged, and cataloged, they were placed in standard-sized acid-free archival quality Hollinger storage boxes. These are the archival industry standard and should be used whenever possible for the long-term storage of archeological collections. They are sturdy, they last much longer than any ordinary cardboard box, and they look nice lining the shelves. They are expensive (about \$4 per box), but well worth it.

The artifact catalog sheet lists the lot numbers, proveniences, contents, of each lot, and the number of the box in which it is stored. This system facilitates a variety of collections management tasks. A quick scan of the list can tell where all of the artifacts from a particular provenience can be found, which lots are in a particular box, and give an approximate idea of the quantity of a particular lot. For instance, lot 143 consists of 24 bags of rubble from provenience 6BBB, and is stored in boxes 18, 19, 20, and 21. On the other hand, box 45 contains all of the artifacts (except rubble) from all of the levels in excavation units 1, 2, 3, and 4, comprising lot #'s 208-246.

The organization, cleaning, cataloging, and packing of the collection was carried out in the trailer that had served as the laboratory and storage facility. Meanwhile, back at the Facilities Planning and Development Office, LaRCs Master Planner (who also serves as Historic Preservation Officer) was trying to find a new home on the Center for the collection. A variety of choices were presented and rejected for a variety of reasons - too small, no climate controls, inadequate security - until, finally a room that met the basic requirements was found. It will have room for the present collection to be stored on shelves, with additional space for work benches, a

desk, and storage space for the tools and equipment left behind by the LRCHAS. Photographs, maps, field records, historical background materials, and other research materials will be stored along with the artifacts in a room that can be used by qualified researchers who wish to study the material. In theory, the collection should never have to leave that room, except for exhibits, as long as the building stands. The Historic Preservation Officer will have authority over access to the collection, which will be much closer to compliance with the guidelines of 36 C.F.R. 79.

Another alternative is to finish cataloging the collection and submit it to the Virginia Department of Historic Resources (VDHR) for permanent curation. The Chief Curator for VDHR, Beth Acuff, has indicated that that would ultimately be the best avenue to take. VDHR has the staff, facilities, and resources to properly care for the collection in perpetuity and to make it available to scholars in a central location along with other collections from throughout the state. A one-time fee of \$75 per box is charged for this service, and since LaRC's collection currently includes 72 boxes, this would cost a total of \$5625. This outlay may seem high at first, but it would remove a great burden of responsibility from NASA's shoulders. In addition to storage, VDHR takes responsibility for any future conservation needs or exhibit preparations that may become necessary.

In either case, much work remains to be done before this phase of the project can be said to be complete. The collection needs to be more thoroughly inventoried, and this information added to the site files at VDHR. The Chesterville site, by virtue of its association with George Wythe as well as its sheer richness, is an important resource for the region and the archaeological community at large, and the results of its excavation must be disseminated to the public. It would be feasible to write a report, perhaps to be published in the Quarterly Bulletin of the Archeological Society of Virginia or a similar journal, based on the information at hand. The existing records are spotty, but many of the original excavators are still employed at LaRC and have indicated a willingness to assist in such an undertaking. Prompt reporting of archeological investigation is an accepted standard in the profession; it fulfills our obligation to share information with the public that funds much of our work. To excavate an archeological site without publishing a report is irresponsible at best, and borders on treasure hunting at worst. Either way, at least the basic site data must be published for the sake of interested scholars.

In all fairness, it should be noted that had it not been for the hard work and dedication of the LRCHAS members, working on their own time with no reward except the thrill of discovery, we would know nothing about any of these sites or about the people who lived here before the arrival of NASA. While history and archaeology are not within the realm of NASA's mission, the agency had done nothing to save or interpret the national heritage lying beneath its feet. On the contrary, the Chesterville site was very nearly destroyed by facility construction before the efforts of LRCHAS members led to its listing on the National Register of Historic Places and the subsequent archaeological investigations. In spite of any shortcomings in their methods or reporting, the members of the LRC Historical and Archeological Society deserve to be commended for their research and hard work.

Historian David Lowenthal has referred to the past as "a foreign country" which can be more fully interpreted through the preservation and analysis of historic artifacts and sites. It is hoped that the present archaeological curation program at Langley Research Center can bring us closer to recovering the multiple meanings that the past held for the people that lived here before the arrival of NASA.

